

We claim:

SubC17

1. A method for producing a precursor polymer dispersion for addition to a brine for use in drilling and completion operations comprising:

2 providing a precursor brine having a first salt content; and

3 mixing a water-soluble polymer with said precursor brine at a sufficient

4 concentration and under conditions sufficient to produce a precursor

5 polymer dispersion effective at a sufficient concentration in a final brine

6 having a second salt content to improve a property of said final brine

7 selected from the group consisting of rheology, fluid loss control, and a

8 combination thereof.

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1 2. The method of claim 1 wherein said sufficient concentration is between

2 about 0.5-4 lb of said water-soluble polymer per gallon of said precursor brine.

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3. The method of claim 1 wherein said sufficient concentration is between

2 about 1-2 lb of said water-soluble polymer per gallon of said precursor brine.

1 4. The method of claim 1 wherein said water-soluble polymer comprises

2 starch.

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1 5. The method of claim 2 wherein said water-soluble polymer comprises

2 starch.

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1 ~~6. The method of claim 3 wherein said water-soluble polymer comprises~~
2 starch.

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1 ~~7. The method of claim 1 wherein~~
2 said precursor brine comprises a salt selected from the group consisting of
3 calcium salts, magnesium salts, sodium salts, potassium salts, aluminum
4 salts, lithium salts, and combinations thereof; and
5 said first salt content comprises a density of between about 9-14 pounds per
6 gallon.

1 ~~8. The method of claim 2 wherein~~
2 said precursor brine comprises a salt selected from the group consisting of
3 calcium salts, magnesium salts, sodium salts, potassium salts, aluminum
4 salts, lithium salts, and combinations thereof; and
5 said first salt content comprises a density of between about 9-14 pounds per
6 gallon.

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1 ~~9. The method of claim 3 wherein~~
2 said precursor brine comprises a salt selected from the group consisting of
3 calcium salts, magnesium salts, sodium salts, potassium salts, aluminum
4 salts, lithium salts, and combinations thereof; and

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said first salt content comprises a density of between about 9-14 pounds per
gallon.

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10. The method of claim 6 wherein

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said precursor brine comprises a salt selected from the group consisting of

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calcium salts, magnesium salts, sodium salts, potassium salts, aluminum

4

salts, lithium salts, and combinations thereof; and

5

said first salt content comprises a density of between about 9-14 pounds per

6

gallon.

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11. The method of claim 1 wherein

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said precursor brine comprises a salt selected from the group consisting of

3

calcium chloride, calcium bromide, and combinations thereof; and

4

said first salt content comprises a density of between about 9-14 pounds per

5

gallon.

1

12. The method of claim 2 wherein

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said precursor brine comprises a salt selected from the group consisting of

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calcium chloride, calcium bromide, and combinations thereof; and

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said first salt content comprises a density of between about 9-14 pounds per

5

gallon.

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13. The method of claim 3 wherein

said precursor brine comprises a salt selected from the group consisting of

calcium chloride, calcium bromide, and combinations thereof; and

said first salt content comprises a density of between about 9-14 pounds per gallon.

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15. A method for producing a precursor polymer dispersion for addition to a final brine for use in drilling and completion operations comprising:

providing a precursor brine having a first salt content comprising a density of

between about 9-14 pounds per gallon of a salt selected from the group

consisting of calcium chloride, calcium bromide, and combinations

thereof; and

mixing between about 1-2 lb/gal of a water-soluble polymer with said precursor

brine under conditions sufficient to produce a precursor polymer

dispersion effective at a sufficient concentration in a final brine having a

second salt content to improve a property of said final brine selected

from the group consisting of rheology, fluid loss control, and a

combination thereof.

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16. A method for treating a high density brine for use in drilling and completion operations comprising:

providing a precursor brine having a first salt content;

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6 mixing a water-soluble polymer with said precursor brine at a sufficient
7 concentration and under conditions sufficient to produce a precursor
8 polymer dispersion effective at a sufficient concentration in a final brine
9 having a second salt content to improve a property of said final brine
10 selected from the group consisting of rheology, fluid loss control, and a
11 combination thereof; and
12 mixing said sufficient concentration of said precursor polymer dispersion with
13 said final brine.

1 16. The method of claim 16 wherein said sufficient concentration is
2 between about 0.5-4 lb of said water-soluble polymer per gallon of said precursor
3 brine.

1 17. The method of claim 16 wherein said sufficient concentration is
2 between about 1-2 lb of said water-soluble polymer per gallon of said precursor brine.
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1 18. The method of claim 15 wherein said water-soluble polymer comprises
2 starch.

1 19. The method of claim 16 wherein said water-soluble polymer comprises
2 starch.

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25. The method of claim 18 wherein
said precursor brine comprises a salt selected from the group consisting of
calcium chloride, calcium bromide, and combinations thereof; and
said first salt content comprises a density of between about 9-14 pounds per
gallon.

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26. The method of claim 21 wherein
said precursor brine comprises a salt selected from the group consisting of
calcium chloride, calcium bromide, and combinations thereof; and
said first salt content comprises a density of between about 9-14 pounds per
gallon.

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27. A precursor polymer dispersion for addition to a final brine for use in
drilling and completion operations comprising:
a first salt content;
a water-soluble polymer in an amount effective at a sufficient concentration in a
final brine having a second salt content to improve a property of said
final brine selected from the group consisting of rheology, fluid loss
control, and a combination thereof.

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